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October, 1938

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Lighthouse Clock, Made by Simon Willard

BEQUEATHED TO THE SOCIETY BY EBEN HOWARD GAY

Old-Time New England

THE BULLETIN OF

The Society for the Preservation of New England Antiquities

A QUARTERLY MAGAZINE
DEVOTED TO THE ANCIENT BUILDINGS, HOUSEHOLD FURNISHINGS,
DOMESTIC ARTS, MANNERS AND CUSTOMS, AND MINOR
ANTIQUITIES OF THE NEW ENGLAND PEOPLE

Volume XXIX | OCTOBER, 1938 | *Number* 2

Mr. Eben Howard Gay's Bequest of Three Early American Clocks

BY ALBERT L. PARTRIDGE, *Secretary of the Clock Club*

SHORTLY before his decease, Mr. George Francis Dow, formerly Director of the Museum of The Society For The Preservation Of New England Antiquities, asked me to prepare for publication a writing descriptive of three clocks which the Society had acquired by bequest from Eben Howard Gay, late of Boston, Massachusetts. As I understood Mr. Dow's purpose it was twofold: to express publicly the Society's appreciation of a gift resulting in a notable addition to its possessions; and also to spread upon the record provided by the Society's publication, OLD-TIME NEW ENGLAND, a description of the clocks themselves. Somewhat belatedly this writing has been undertaken in order to accomplish Mr. Dow's desires.

The bequest comprises a Simon Willard Lighthouse Clock, a Lemuel Curtis Girandole Clock, and a Simon Willard Rocking Ship Tall Clock. As from a collector's standpoint there might well be an argument as to the relative importance of the three clocks, it is proposed to refer to them in the order above, an order which Mr. Gay himself adopted when he wrote an article entitled "Four Typical Colonial Clocks" which was published by the magazine *Antiques* in the issue for January 1923.

The Lighthouse Clock

This clock surmounts a dark mahogany case resting on ball feet. The base is eight sided, the top slightly tapered. The dial is of brass and is marked *Simon Willard—Roxbury*. Mr. Gay referred to this clock as an Eddystone Lighthouse Clock. This designation has been employed elsewhere, notably in *Simon Willard and His Clocks* by John Ware Willard (1911), where it is appended to the picture of the Lighthouse Clock which appears on pages sixty-four, plate twenty-four, the theory being, as expressed by Mr. Gay, that the case was modeled after the plan of the famous Eddystone Lighthouse in the English Channel.

In his article Mr. Gay stated that, including his own, he had been able to trace

thirteen of these clocks. I have conferred with Mr. J. C. Harvey and Mr. James E. Conlon of Boston, both of whom have had greater opportunity for acquaintance with these clocks than have I, and from these combined sources of information I judge that we could now list about thirty. Doubtless there are more in existence, but at least it may be stated with assurance that by comparison with the number of authenticated Simon Willard Banjo Clocks, the present-day list of his Lighthouse Clocks is a small one.

Mr. Willard obtained his timepiece patent (Banjo) in 1802. In 1819 he applied for and obtained another patent, this time for an alarm clock. Under date of August 10, 1822, he advertised this later clock. Mr. Conlon has two photographic copies of this advertisment bearing the same date, but while in these the text is identical, the spacing differs, and the included cuts of a Lighthouse Clock are not exactly alike. In this advertisement Mr. Willard refers to his patent for a "*Newly invented* Alarum Timepiece," and avers that these clocks keep better time and "have a decided preference over his former Patent in point of elegance and usefulness." Following the advertisement, under the heading "CAUTION," Mr. Willard mentioned that his former patent right expired "six years ago," and warned the public against "the frequent impositions practiced in vending spurious Timepieces," and concluded as follows: "Several of them have lately been brought to me for repairs, that would certainly put the greatest bungler to the blush. Such is the country inundated with, and such, I consider prejudicial to my reputation. I therefore disclaim being the manufacturer of such vile performances."

From this advertisement it seems clear that Mr. Willard was greatly provoked by the situation which had arisen in connection with his Timepiece patented in 1802 (the Banjo), and that this marked an effort on his part to build up in public favor the clock on which he had recently secured a patent. The scarcity of these clocks today suggests that his efforts in building up favor for the new timepiece were not greatly successful.

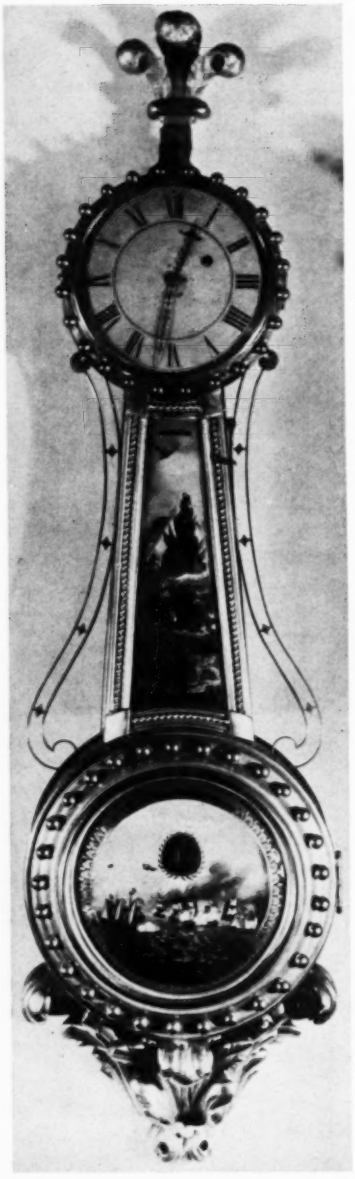
The key with the Lighthouse Clock belonging to the Society bears the initials *S. W.* and on the reverse side the date 1782, and, in his article, Mr. Gay in tracing the ownership of the clock assumed that it was made in 1782 and states definitely that it was in the possession of the Sullivan family of Charlestown, Massachusetts, up to 1795, when it was stored in the tower of the local church for a period of about fifty years. In the absence of such definite statement, and in the light of what has gone before, I would have assumed that the clock was made at a later date, at or about the time when the alarm patent was secured, but of course this does not follow of necessity, and the clock may have been constructed long before the patent was granted, although I have noted that in his advertisement Mr. Willard referred to the patented alarm clock as "newly invented."

The alarm patent which is set forth in the Willard book on page sixteen is in part as follows:

> This is an alarm wheel with teeth like the pallat wheel of a clock, with small pallats: the hammer stem being attached to the pallats, and reaching through the clock plates on the other side: and when let off, it strikes on the top of the case of the clock, and makes a noise like some one rapping at the door, and it will wake you much quicker than to strike on a bell in the usual way.

It will be noted that the Society's clock carries an overhead bell on which the alarm functions, and I do not recall seeing one of these clocks without the bell, although Mr. Conlon reports that he has seen one in which the hammer arm was reversed and tapped upon a brass disk set in the top of the case. One might fairly assume, I believe, that the use of the bell was a development of the process of rapping on the case as called for by the patent, and from this it would follow naturally that the clocks carrying bells are to be dated later than 1819, and in this connection it should be noted that the two cuts of these clocks shown in the advertisements of 1822 show a bell on each. However, Mr. Gay was precise in statement of the ownership of the clock at a date much earlier than that of the patent, and, in support of his belief with regard to its age, we may refer to Mr. J. C. Harvey's Lighthouse Clock decorated in white and gold. Mr. Harvey has with it definite and apparently dependable information to the effect that the clock served as a wedding gift in 1813, six years before the patent was granted. Another feature which supports Mr. Gay's belief as to the age of his clock is that it carries a brass dial. Mr. Harvey's clock has a painted dial. A considerable number of these clocks, including some marked *Simon Willard and Son* have porcelain dials, imported in all probability. Generally speaking, the use of such dials would be accepted as fixing the age of the accompanying clocks in the order in which they are mentioned above, that is to say, brass, painted, and porcelain.

In view of the fact that I was unable to learn of two Willard Lighthouse Clocks with similar cases, and never having seen the Eddystone Lighthouse, I was interested to learn of its architectural design with a view to determining whether fairly the name *Eddystone* should have been attached to these clocks. From the books, *Lighthouse and Lightships*, by W. H. Davenport Adams (1870) and *Lightships and Lighthouses* by Frederick A. Talbot (1913), I have learned that there have been four structures on this dangerous reef. The first, built of wood and designed by Henry Winstanley, endured from 1699 to to 1703. The second, mainly in wood, designed by John Rudyerd, was destroyed by fire in 1755. The third, in Portland stone, was begun by John Smeaton in 1756 and endured for one hundred and twenty years. As this last structure was erected when Simon Willard was three years old and was in use for twenty-eight years after his death, it is evidently the one to which we must look for a proper application of the name to our clock cases. In fact, Smeaton introduced a change in shape which has been universally copied. Instead of causing the sides of his lighthouse to slope upwards in the straight lines of a cone, such as Rudyerd adopted, Smeaton adopted a slightly concave curve, so that the tower was given a waist at about half its height. The curve commenced at the foundation and it was not until the construction of the fourth light by Sir James Douglass, which was completed in 1882, that a perfect cylindrical base was employed. As noted above, I do not recall seeing two of these clocks which are exactly alike as to case design. Bases are square, round, and hexagonal; the upper portions are straight round, and slightly tapered; but to date I have not seen or heard of one carrying a concave shaft, and although it is a fact that the cuts affixed to Mr. Willard's advertisements appear to show a concave shaft, I am in-



Girandole Clock
Made by Lemuel Curtis
BEQUEATHED TO THE SOCIETY BY
EBEN HOWARD GAY

clined to believe that he did not name the clock, but that later by common usage the descriptive word *Eddystone* came to be associated with these *Alarum Timepieces* just as the name *Banjo* was adopted as aptly descriptive of Mr. Willard's *Patent Timepieces*.

After referring to the alarm patent of 1819, John Ware Willard said: "The author has never seen one of these alarm clocks made by Simon Willard, but all the other clock-makers of his time promptly copied it." It is a fact, however, as I have noted, that there is a picture of a Lighthouse Clock later on in the Willard book. This suggests that the author was not aware that the clock which he pictured was capable of functioning as an alarm, and the correctness of his statement to the effect that the Lighthouse Clock was widely copied may well be doubted, but these facts in no way reflect upon the author or on the book as it is evident from his preface that personally he had not been connected with the manufacture of clocks.

The Lemuel Curtis Girandole Clock

In the magazine *Antiques*, December, 1923, Walter H. Durfee of Providence, Rhode Island, published an interesting article on the clocks by Lemuel Curtis, a subject which has also been touched upon by Mr. James E. Conlon and by Reverend Laurence L. Barber in papers which they have read in Boston before the Clock Club. There may also be found in *American Collector* for March, 1938, an interesting Curtis article by Dr. Hugh Grant Rowell. From these sources it ap-

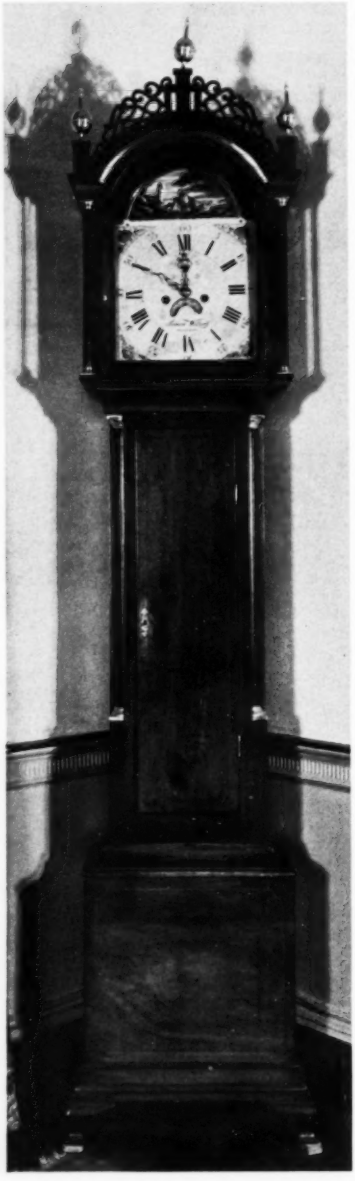
pears that Mr. Curtis was born in Boston in 1790, and died in Burlington, Vermont, in 1857. About 1811 he settled in Concord, Massachusetts, where a number of clockmakers were already located, and remained there until 1818, when he removed to Burlington. On July 12, 1816, L. Curtis of Concord, Massachusetts, was granted a patent on a *Timepiece*. I have seen no direct evidence as to the scope of this patent but it seems to be assumed that it concerned his Girandole Clock. Doctor Rowell argues with reason that the known facts lead readily to the conclusion that Mr. Curtis was apprenticed to one of the Willards, but so far as I know there has been no positive statement that such was the fact, and Mr. Curtis is not included in the list of apprentices to Simon Willard who are mentioned in the Willard book.

Under date of November 2, 1811, Mr. Curtis advertised that he had taken a shop in Concord, near the Court House. Although here he describes himself as a *Clock and Watch-maker*, and although the advertisement concludes with this statement: "Wanted 2 Journeymen clock-makers," no clocks are mentioned in the lengthy list of articles offered for sale, which includes English and French watches and sundry items of silverware and jewelry.

Mr. Durfee attributed to Lemuel Curtis four types of clocks: (1) the Girandole; (2) the Lyre; (3) the Ogee Base (Shelf-clock); (4) the Banjo. Apparently he did not make tall clocks. Naturally enough Mr. Durfee devoted his article mainly to discussion of the Girandole, the only type which is believed to have been originated by Curtis. Among the paintings commonly employed by Curtis, Mr. Durfee mentions *Commerce, Aurora, The Shipwreck of St. Paul, The Lady of the Lake*, and *Perry's Victory on Lake Erie*. One of the latter is illustrated and it is stated that this painting is signed on the back, *Painted by Benj. B. Curtis*. Doctor Rowell illustrated another painting entitled *Elisha Restores the Shunammite's Son to Life, II Kings*, IV, 37, which he describes as being in treatment very close to the plates engraved on copper to be found in the illustrated Bible published by Isaiah Thomas of Worcester.

The Society's Girandole Clock carries one feature which seems to be attributed to Curtis alone, namely the hands, which are composed of a series of small circles, four on the hour hand, and five on the minute hand. The paintings have reference directly to our naval history. At the top of the waist glass we find in small letters, *L. Curtis*. Below this there is a flying eagle bearing a shield. Midway, Columbia, on a chariot and bearing an American flag, drives a span of sea horses from the waves. In the background a monument in gold leaf bears the names of *Decatur, Jones, Hull*, and others, while on the base we find *Washington, Independence*, and also names of naval celebrities. At the foot of the glass there is a gold leaf design showing cannon and the inscription, "We have met the enemy and they are ours." The painting on the circular lower glass depicts a naval engagement, about twelve ships being in view, and carries the title, *Perry's Victory*.

The Society's clock is surmounted by a decoration in the form of the Prince of Wales feathers. Mr. Durfee seems to have assumed that Curtis invariably used the eagle for this purpose, but Mr. Gay not only mentions American clocks of other designs carrying the feathers, but also, in a footnote, reports a newly dis-



covered Girandole clock similar to his and bearing a similar decoration.

The Simon Willard
Rocking Ship Tall Clock

There is little to be said about this clock that is not disclosed by its picture. It is cased in mahogany with reeded quarter columns capped in brass. The movement carries a calendar and, in the arch, a rocking ship. The dial is painted, the spandrels being of the rose design, and is lettered, *Simon Willard — Roxbury*. The case rests on ogee bracket feet and the top and frets are in the typical Willard manner. The rocking ship is an attractive feature, although not especially rare. Early New England clockmakers seemed to have favored this mechanical design as a substitute for the older and more complicated design showing the phases of the moon in the arch. The process is simple, the light rod on which the painted ship is poised being affixed to the pallet arbor and thus being permitted to rock back and forth with the motion of the pendulum.

Rocking Ship Tall Clock
Made by Simon Willard
BEQUEATHED TO THE SOCIETY BY
EBEN HOWARD GAY

The Thwing Likenesses—A Problem in Early American Portraiture

By Louisa Dresser

On April 18, 1785, one Edward Savage made a few purchases of Messrs. Rea & Johnston of Boston, painters and decorators, which have been recorded as follows in their account books preserved at the Baker Library of the Harvard School of Business Administration:

Edward Savage. Dr to: 2 half length

Oil Cloths . . at 8/.	—	16	—
Dr to 2¾ quarter Cloths . . at 4/6	—	9	—
	£1	5	0

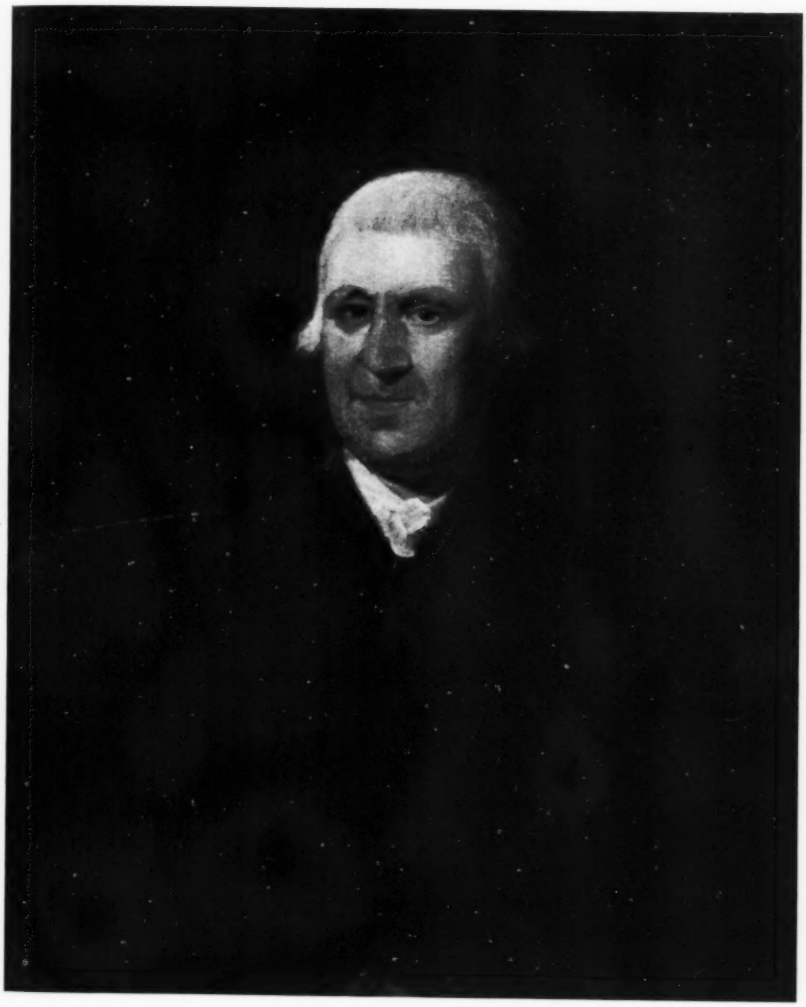
The purchaser was to become well known in later years for his paintings and engravings of Washington and other important persons, particularly his large group of the Washington family, but on that spring day in 1785 he was only twenty-three years old and barely on the threshold of his career. One imagines that he may have paused to chat with John Johnston, the junior partner, a veteran of the Revolution, who, at thirty-two, was already established as a portrait painter, and it is futile, though fascinating, to wonder whether they may have mentioned the portraits of James and Martha Thwing, supposed to have been painted the preceding year, which now hang in the Harrison Gray Otis house, the gift of Miss Annie Haven Thwing to The Society for the Preservation of New England Antiquities in 1936. Previously they hung in the dining room of the donor's house, 65 Beech Glen Street, Roxbury, and before that at 175 Highland Street, Roxbury, the house of her father, Supply Clap Thwing. It seems likely that they are the work of either Savage or Johnston, family tradition upholding the claims of the former artist while present-day criticism points strongly to the latter.

Both these portraits, which thus present a minor problem in early American portraiture, are in oils on canvas measuring about twenty-five by thirty inches. They are half lengths, showing the subject, in each case, seated on a sofa or armchair upholstered in green and studded with brass-headed nails. The man, who is obviously of middle age, is represented with his body full front, his right elbow supported by the arm of the chair, his head turned slightly to the spectator's left with deep blue eyes directed straight forward. His white hair is brushed back from his forehead, rolled over the ears and tied at the back of the neck. His simple coat with wide button-holes and his high-buttoned waistcoat are of reddish brown, while his white neckerchief and the ruffle at his right wrist provide notes of snowy white. The background is a plain, dark brown.

The woman, represented in the companion portrait, who appears to be of about the same age, faces slightly toward the right but her gray-blue eyes look directly at the spectator. Her hair is completely covered by a ruffled, high-crowned cap of a sheer white material, and she wears a light gray dress and an ample white kerchief which are well set off by the dark brown background.

Both likenesses are boldly and rather crudely painted by the same, not too expert hand. They are not signed but on the back of the man's portrait can barely be made out, in large handwriting on the

Mrs. James Thwing



James Thwing

canvas, the words "James Thwing" and "Savage." At what time this was written is not exactly known but the portrait was probably relined about twenty-five years ago. The woman's portrait is inscribed on the back "Martha (Clap) Thwing."

In view of the above it is surprising to find that Miss Thwing did not consider the former canvas a portrait of her great-grandfather, James Thwing, though she identified its companion as his wife, Martha (Clap) Thwing. Instead she thought it a likeness of Mrs. Thwing's brother, Supply Clap, and it had been so labeled when the Society received it. At the same time another portrait presented by Miss Thwing, was labeled "James Thwing." This canvas, evidently by a different hand, represents a man seated in a green Windsor chair by a window, a little dog at his side. He wears a brown coat with a high collar and a cravat tied in a bow-knot which are characteristic of a period rather later than 1784, when portraits of Mr. and Mrs. Thwing are supposed to have been painted, and even later than 1789 when James Thwing died. It seems likely, therefore, that this third portrait represents Supply Clap and that, at some time in the past, the identifications of the two male portraits were mistakenly exchanged. The pair of canvases illustrated here are thus believed to be likenesses of Mr. and Mrs. James Thwing.

The known facts of Mr. Thwing's life as a respectable and industrious citizen of Boston are soon told.[1] The son of Major Nathaniel and Joanna (Davis) Thwing, and a descendant of Benjamin Thwing, who came to this country from England aboard the *Susan and Ellen* in 1635, he was born April 15, 1733. He became a baker and on March 15, 1757, was married to Martha Clap by Rev. Thomas Foxcroft of the First Church, Boston.[2] Three years later, after the great Boston fire of March 20, 1760, he was listed by the Boston *Post-Boy and Advertiser* as among the sufferers in the lower part of Water Street whose dwelling houses had been destroyed.[3] As an older man, in 1779, he became deacon of the First Church, Boston, and was for some years one of the standing committee of the same church. The family papers throw little more light on his career but two documents, characteristic of the period in which he lived, may be mentioned. According to the first, a boy, Daniel Hanglin, was apprenticed to James Thwing and his wife and heirs on February 7, 1759, with the understanding that in 1764, when he became twenty-one, his master would dismiss him "with Two good Suits of Wearing Apparell fitting for all parts of his Body the One for Lords Days, the other for Working Days suitable to his Degree." The second, written November 17, 1767, and duly witnessed, records the sale by Nathaniel Thwing to James Thwing, baker, of a negro named London.[4] Mr. Thwing died in Boston, December 11, 1789, and was buried in the King's Chapel Burying Ground. His will, which mentions the four of his ten children who survived him, Nathaniel, James, Samuel and Rebecca (Mrs. William Furness), was written October 15, 1783. Quite naturally it does not refer to the portraits, which are not supposed to

1 In preparing this article much use has been made of *Thwing, a Genealogical, Biographical and Historical Account of the Family*, 1883, by the late Walter Eliot Thwing, brother of Miss Annie Haven Thwing and a former owner of the Thwing portraits.

2 *New England Historical and Genealogical Register*, Vol. 42 (1888), p. 254.

3 *New England Historical and Genealogical Register*, Vol. 34 (1880), p. 291.

4 "The Thwing and Haven Family Papers," collected and arranged by Miss Annie Haven Thwing and given by her to the Massachusetts Historical Society.

have been painted until about 1784, but it is disappointing to find that the inventory of his estate, January 11, 1790, reveals little more as neither of the following can be supposed to refer to portraits:

a painted canvas for room and entry, 40/
18 pictures under glass. 12/[5]

Mrs. Thwing was born in Woburn, August 6, 1738, the daughter of Rev. Supply Clap and Martha (Fowle) Clap, and a descendant of Roger Clap of Dorchester, who came from England on the *Mary and John* in 1630. She died in Boston November 28, 1805, leaving no will and neither the inventory of her estate, which lists only stocks, nor the account of its administrator, throws any light on the descent of the portraits.[6] It is reasonable to suppose, however, that the pair remained in Mrs. Thwing's possession until her death and then went to her son, Samuel, father of Supply Clap Thwing and grandfather of Miss Annie Haven Thwing.[7]

Supply Clap, brother of Mrs. Thwing, was born in Woburn, January 3, 1742, and died at Portsmouth, New Hampshire, March 24, 1811. There is no mention of a portrait in his will written October 19, 1809, but in the inventory of his estate, dated March 30, 1811, which lists the contents of his house on Vaughan and Cross Streets, Portsmouth, appear the following among articles "In the Front Room":

1 Gilt Portrait painting 8. 12 black prints Glazed 30. . . . 38.[8]

Eight dollars seems a low valuation for a portrait in oils but perhaps it is as reasonable as the "sentimental value only" with which many family portraits are dismissed in present-day inventories. Possibly, therefore, this item refers to the portrait of a man with a dog described above, which was labeled "James Thwing" but is now thought to represent Supply Clap. It may have come into the possession of Samuel Thwing, named as one of the beneficiaries in his uncle's will, and thus have descended to Miss Annie Haven Thwing.

The problem remains for discussion: Who painted the Thwing portraits? Since we cannot listen in on that hypothetical conversation between two young artists standing in the April sunshine at the door of Messrs. Rea & Johnston's establishment, it might seem the easier course to accept family tradition and attribute them to Savage, especially since there has been preserved a list of portraits, apparently in the handwriting of Supply Clap Thwing, which reads as follows:

Portraits

My Grandfather Dea James Thwing
My Grandmother Martha (Clap) Thwing
These Two painted by Savage
supposed about 1784

. . . .

My Father Samuel Thwing
by Johnson about 1804

. . . .

My Great Uncle—Brother of my
Grandmother—
Capt Supply Clap—who lived many
years in Portsmouth
where he died about 1811.
painted about 1794 by the
Teacher of Copely.[9]

5 Suffolk County Probate Records, 19409, Will, Vol. 88, p. 709; Inventory, Vol. 89, p. 16.

6 Suffolk County Probate Records, 22853, Inventory, Vol. 105, p. 186; Administrator's Account, Vol. 106, p. 51.

7 Examination of the wills and inventories of Samuel Thwing and his son, Supply Clap Thwing, has, however, yielded no information about family portraits. Suffolk County Probate Records, 23664, Will, Vol. 108, p. 563; Inventory, Vol. 109, p. 39; 60100, Will, Vol. 497, p. 7; Inventories, Vol. 497, p. 169; Vol. 502, p. 102.

8 Copies of Supply Clap's will and inventory are preserved among "The Thwing and Haven Family Papers," Massachusetts Historical Society.

9 "The Thwing and Haven Family Papers," Massachusetts Historical Society.

When this list was written cannot be definitely stated but certainly before 1877 when Supply Clap Thwing died and possibly as early as 1856. At that time Mr. Thwing was evidently thinking of his family portraits for a letter written by his wife, Anne Shapley (Haven) Thwing, dated Rocky Side, January 24, 1856, and beginning "My dear Mother" contains the following:

> Supply wishes to know, if James ever found out *when* "Grandmother and Grandfather Thwing's pictures were painted."[10]

Unfortunately the reply to this tantalizing inquiry cannot be found.

To cast aside lightly Mr. Thwing's attribution of the portraits to Savage would be ill-advised but some consideration of its acceptability is in order, especially since there is another statement in the list which indicates his opinion is not entirely to be relied upon. This is the attribution of Supply Clap's portrait to "the Teacher of Copely," an unlikely one for a canvas painted about 1794 when Copley had already been in permanent residence in England for nearly twenty years and any artists, from whom he might as a young man have received instruction or inspiration, were presumably dead.

A comparison of the Thwing portraits with known examples of Savage's work does not tend to support family tradition. The best and surest document of this artist's early style, before he went to London, is the portrait of George Washington which he painted in 1789 and presented to Harvard College.[11] It shows no obvious similarity to the Thwing canvases. In fact the difference is quite striking between the craggy features of James Thwing and the smooth presentment of the first president, between the loose, rather dashing strokes used in painting the garments of Mrs. Thwing and the relatively tight manner in which Washington's uniform is depicted. Indeed there seems to be more contrast between the Thwing portraits painted about 1784 and the portrait of Washington than between that portrait and the canvases which Savage painted after his return to America in 1794 such as his likeness of Mrs. Abiel Holmes in the Worcester Art Museum.

Until recently the Washington portrait of 1789 was the earliest known work by Savage which could be definitely dated but there has come to light a copy by him of Copley's portrait of Dr. Nathaniel Appleton owned by Harvard University. This is now in the possession of a descendant of Doctor Appleton, Mrs. Alexander Quarrier Smith of Charleston, West Virginia, who also has Savage's receipt dated Boston, July 26, 1786:

> To one potrat of Dr Appleton £5—12.[12]

Judging merely by a comparison of photographs, there is nothing at all reminiscent of the Thwing portraits in this copy after Copley, and it seems likely that they are by a different hand, unless it can be proved that Savage, in his first years as a painter, was strongly influenced by the work of another artist, only to change his style radically shortly after.

This other artist was John Johnston whose work must have been familiar to Savage. The Rea & Johnston account books indicate that, as early as 1781, he was actively painting portraits in Boston since the following entry appears for April 15 of that year:

> Joshua Davis. Dr to painting the portrait of General Warren. 18. — —

10 "The Thwing and Haven Family Papers," Massachusetts Historical Society.

11 Now in Adams House, Cambridge. Reproduced in *The Life Portraits of Washington and Their Replicas*, 1931, by John Hill Morgan and Mantle Fielding, opp. p. 180.

12 Information supplied by Mr. Alan Burroughs of the Fogg Art Museum, Harvard University.

While for July 21, 1784, there is an entry "to paintg 2 Ovals" for Paul Revere. Unfortunately a careful search through the account books has revealed no mention of portraits painted for Mr. Thwing. This is not conclusive evidence, however, as the likenesses noted are relatively few in comparison with the many at present attributed to Johnston. That the Thwings were customers of Daniel Rea is proved by these entries for July 3, 1792, and May 19, 1793:[13]

Dr. James Thwing of Boston Merchan			
To Paint Sundry parts of yr Fathers House & Bill Rendd	10	3	0
To Sundries		18	0
	£11	1	0

John Johnston was related to the Thwing family since his mother, the second wife of his father, Thomas Johnston, was Bathsheba Thwing, second cousin of James Thwing's father, Nathaniel Thwing, while Thomas Johnston's first wife, Rachel Thwing, was an even closer relative being Nathaniel Thwing's sister and thus James Thwing's aunt.[14] This relationship is interesting but of course proves nothing in regard to the authorship of the portraits. Mr. Thwing may or may not have seen fit to employ his young relative to paint likenesses of himself and his wife but Supply Clap Thwing's list shows that Samuel Thwing of the next generation sat to him about twenty years later. This canvas has also been given to the Society for the Preservation of New England Antiquities by Miss Annie Haven Thwing and there seems no reason to doubt its attribution to Johnston. Whether the portraits of Mr. and Mrs. James Thwing are earlier, less facile likenesses by the same hand must remain an open question but it seems likely that such may be the case. Certainly the portrait of Mr. Thwing strikingly resembles that of Jonathan Mason owned by Dr. Henry F. Sears of Boston and believed to have been painted by Johnston in 1783,[15] while there is much in the portrait of Mrs. Martha Thwing to link it with that of Mrs. Samuel Hill by Johnston owned by Russell W. Thorpe, New York.[16]

The Thwing portraits have the rough vigor typical of Johnston's work rather than the smooth finish which is more characteristic of Savage. For the present, therefore, pending the results of study by X-ray and other scientific means, or the finding of conclusive documentary evidence, it seems best to question seriously the traditional attribution to Savage and accept tentatively Johnston as the artist.

13 By this time John Johnston seems to have been no longer a member of the partnership for under date of 1787 the following is recorded in the account books:
"Dr. John Johnston of Boston Portrait painter
To the half of Sundry Articles for Jobs Unfinish'd after the Dissolution of Copartnership of Rea & Johnston."

14 "The Johnstons of Boston," by Frederick W. Coburn, in *Art in America*, Vol. 21 (1932-33), p. 31. Part Two, pp. 132-138, gives an interesting account of John Johnston, his association with Daniel Rea, and a partial list of the portraits which have at various times been attributed to him.

15 Reproduced in *The First National Bank of Boston, A brief history . . .*, 1934, opp. p. 16.

16 Reproduced in *Little Known Early American Portrait Painters: John Johnston*, an undated pamphlet issued by the Copley Gallery, Boston.

In Praise of Oxen

By Anna A. Dalton

OF all the animals kept at the farm the oxen have always seemed to me most closely associated with the earth. Their heavy, clumsy shapes, their slow moving but definite progress across ploughed fields in spring or through heavy snows of winter were once as familiar a part of the New England landscape as the apple trees or the stone walls.

No other animal could have taken the place of the ox in the early development of the New England farm and he was a poor farmer who did not own at least one yoke of oxen. The well-matched pair, usually dark red, with perhaps white or spotted faces, wide-spreading horns tipped with brass knobs, and smooth, sleek coats, was found on the farm where the owner took pride in and enjoyed his work; while the indifferent farmer more often drove a poorly matched pair, perhaps one red and one black or one considerably larger than the other with sometimes broken or twisted horns.

The oxen were trained to pull truly and evenly. Never was one allowed to walk a few inches ahead of the other in pulling the load and if a quick moving ox had become mated with a slower one, so that the team "yawed," the pair was broken up and new mates supplied. But the oxen resented this. They grew attached to their mates and it usually took some time to accustom them to new ones.

No fancy names were bestowed on the oxen. Duke and Dime, Buck and Broad or Buck and Berry, Bright and Star or Star and Swan were favorite and time-honored names. Occasionally an owner departed from ancient custom and Tom and John or Tom and Jerry were used but names like those were not quite so fitting or so popular. Dime was probably a contraction of Diamond for a white diamond or star often decorated the forehead. The derivation of most of the other names is obvious, but where did Swan come from? It surely had no connection with the graceful bird of that name. The only way I have ever heard the word used was an old expression indicating great surprise as, "Well, I swan!" or "I swan to man!" And incidentally, there is another old expression I should like to know the origin of and that is "kit and calabash" or "kit and caboodle." "Here comes the whole kit and calabash," meaning derisively the whole family outfit.

Although the ox moves slowly he is an intelligent creature and the expert teamster needed only his long, slender oak or hickory goad stick with sharp brad in the end and an authoritative voice to guide his animals through any maneuver.

An ox team might mean one yoke of oxen or several. The commands for driving oxen were quite different from those used in driving horses. The vocabulary was limited but the inflection changed the meaning to fit any situation. "Hish, Star! Gee, Buck! H'Broad! H'Berry," in a high-pitched, sing-song voice, with a circular motion of the goad stick, started the team going in full swing, while "Ho, hish, *Duke*! Gee, Dime!" in more emphatic tones and sometimes a sharp prod with the brad meant for Duke and Dime to get right down to business.

It was the ambition of most farm boys to have a pair of steers that they could

Harvesting the Crops

Spring Plowing

A Two-yoke Team of Oxen—Maple Sugaring

"handy" for their own. Then they could take their places in the fall in the long procession of matched oxen and steers on their slow, humble yet dignified way to the county fair. The town team contained the pick of the oxen of the town. They were graduated in size from the large, wise ones on the pole to smaller ones, down to the yearlings the boy had so carefully trained through the year.

This showing of the oxen was strictly a man's affair. Women went to the fair of course, but they won their laurels in Floral Hall. The men and boys who accompanied the town team, some of whom never missed a county fair, were usually keyed up to considerable excitement but the oxen themselves showed little concern in being the center of interest and went calmly on their way, chewing their cuds in philosophical fashion.

Now motor trucks and other machinery carry on much of the work once done entirely by oxen, but on many farms the steady and honest ox is still depended on to go where it is impossible to take truck or horses, such as wading through the soft and treacherous spring snows to collect the maple sap of the sugar orchards, to haul the winter supply of wood down the steep and rocky hillsides or to draw the meadow hay from the soft, spongy swamp land.

Pedigreed Early Furniture

Some Examples Inscribed with Triple Initials and Date, of Small-Panel Type made at Ipswich, Massachusetts

By Irving Phillips Lyon, M. D.

AMONG New England furniture of the oak period, one category—the *small-panel type*—is conspicuous for the number of initialed and dated examples. Among the latter, five pieces exhibit *triple initials*. In these, the three letters are arranged in a manner that clearly indicates the designation of a married couple, as owners: the middle letter, *for surname*, on a level either above or below that occupied by the first letter and the last, which stand for the christian names of husband and wife. The date signifies the year of manufacture. The same arrangement was customary in the marking of silver of the period. It occurs only rarely on other contemporary furniture of New England. Another feature, as a rule, characterizes these triple-initialed pieces: each of the three letters and the date are placed upon separate small panels or blocks, evidently designed for that purpose.

The design category (*small-panel type*), of which the five inscribed pieces are representatives, has been analysed in *Antiques* for April 1938, and is there attributed to a place of origin, Ipswich, Massachusetts, and to a probable maker, Thomas Dennis (1638–1706). The work of this cabinetmaker is sketched, in broad outline, in a series of papers in the same magazine (November 1937–August 1938). First a resident of Portsmouth, New Hampshire (1663–1668), Thomas Dennis removed to Ipswich, Massachusetts, where he remained through the rest of his life (1668–1706). His identified product embraces a wide range of designs—carved, ornamental wainscot—which reveal him as the unrivaled master of his craft in all New England. Examples of his *small-panel type* are dated from 1678 to 1694, and *affiliates* of this type extend this range to 1701. The five triple-initialed pieces, of small-panel type, are dated, respectively, 1678, 1681, 1683, 1684, 1694. With the latter group, only, are we concerned in the present paper—with the object of identifying the persons represented by the combined initials, and pedigreeing the subsequent line of ownership of these pieces of furniture. Such verification for two of the five examples has already been accomplished (Old-Time New England, April 1938). Here, two more of the group will be fully authenticated. The fifth, lacking any known record of its derivation by which to trace a descent, will be attributed, by inference, to conjectural first owners.

I. The Chest of John and Margaret Staniford of Ipswich, Massachusetts. Dated 1678, Initialed I^{S}_{M} (Fig. 1)

The verification of this inscribed chest is affirmed by an established line of natural inheritance from first to last family owners, all of Ipswich. The chest remained in one house for several generations, and, by tradition, was inherited through earlier generations from its original owners, John and Margaret Staniford, whose combined initials are upon the piece.

The Chest of John and Margaret Staniford of Ipswich, Mass.
(DATED 1678.) COURTESY OF HENRY F. DU PONT, WINTERTHUR, DELAWARE

Line of Inheritance.

(1) John Staniford, place of birth unknown, died in Ipswich, May 25, 1730, "Aged 82 years" (gravestone). He married, about 1677–1678, Margaret Harris (1657–1750), daughter of Thomas and Martha (Lake) Harris, of Ipswich. Their first child was born in Ipswich, Oct. 31, 1678. House lot bought March 12, 1678/79. John's occupation is recorded as "cordwainer." The inventory of his estate is missing.

(2) Thomas Staniford, "gentleman," (1680–1740), mar. at Ipswich, 1707, Hannah Ringe (1684–1749).

(3) Daniel Staniford (1717–1757), (Harvard College 1738), mar. at Ipswich, 1742, Mary Burnham (1718–1779).

(4) Sarah Staniford (1751–1796),

The Chest of Henry and Anne Short of Newbury, Mass.
(DATED 1694.) COURTESY OF HENRY C. SHORT, WABAN, MASS.

mar. at Ipswich, 1777, as his second wife, Col. John Heard (1744–1834), of Ipswich.

(5) George Washington Heard (1793–1863), (Harvard College 1812), mar. at Ipswich, 1823, Elizabeth Ann Farley (1802–1865).

(6) John Heard (1824–1894), of Ipswich, mar. in Philadelphia, 1867, Alice Leeds (b. 1846 in Utica, N. Y.; d. 1917 in Ipswich).

(7) Alice Heard, born in Ipswich, owner of the chest in 1930.

As thus pedigreed, this chest (chest of drawers) of John and Margaret Staniford proved to be one important link, among others, in the chain of evidence that revealed the origin, Ipswich, and the maker, Thomas Dennis, of furniture of of its special type (*small-panel*). Of particular significance, were the facts that the home of these Stanifords (and, also,

that of Margaret's parents) was very close to the site of Thomas Dennis, and that both John and Margaret were called in to witness the latter's will, when made in haste just one day before his death. It is obvious that the young couple would naturally obtain their furniture, within stone's throw, from this master carver-joiner, a man with whom they appear to have been on friendly terms. The chest itself, in some respects unique, bears witness to the skill of its maker.

To enliven the picture of an ancient piece of furniture, let us glimpse into the family of John and Margaret Staniford. Of John, little is revealed by the records beyond the facts that he was a substantial citizen, frequently an appraiser of estates, a deacon in the First Church of Ipswich, father of several prosperous sons bearing the title of "gentleman." Margaret's mother was of gentle birth, a daughter of Mrs. Margaret (Read) Lake of Ipswich, who as a widow came to New England in 1635, accompanied by two daughters and a sister, the latter being the wife of the eminent John Winthrop Jr., Connecticut's first governor. A second sister of Mrs. Lake became the wife of Samuel Symonds of Ipswich, at one time Deputy Governor of Massachusetts Bay Colony. Margaret (Staniford) is mentioned in her grandmother Lake's will, being left a legacy. Later, with the marriage of Sarah Staniford, of the fourth generation, to Colonel John Heard, the chest came into possession by a distinguished Ipswich family, in which it descended through further generations. From 1795, when Colonel Heard built his imposing mansion (now the property of the Ipswich Historical Society), the chest is believed never to have left this home, until 1930, when it was acquired by its present owner, Henry F. du Pont. The line of descent may well account for the remarkable state of its preservation, with hardly a blemish marring the original decoration.

II. The Chest of Henry and Anne Short of Newbury, Massachusetts. Dated 1694, Initialed $_{H}{}^{S}{}_{A}$ (Fig. 2)

This little *chest-with-drawers* (19 x 19½ x 13½ in.) was the subject of a brief notice in the New England Historic Genealogical Register, 1872 (XXVI, 81), at which time it was owned by Miss Abigail S. Short, of Newbury, Massachusetts. In her family it had descended for generations, and was attributed, by tradition, to original ownership by Henry and Anne Short, whose combined initials and period agree with the inscriptions upon the chest. No other explanation of the chest's initials and date is revealed in the collateral lines of Abigail's ancestry, thus confirming the family tradition. After the death of Abigail, in 1903, the chest was given to its present owner, Henry C. Short, great-grandson of Abigail's half-brother, Moses, and a direct descendant from Henry Short.

Abstract of Lineage.

(1) Henry[2] Short Jr., (Henry[1]), (1652–1706), mar. (1) 1674, Sarah Whipple; mar. (2) May 11, 1692, widow Anne (Sewall) Longfellow (1662–1706). The inventory of Henry Short's estate does not itemize furniture.

(2) John[3] Short (1685–?).

(3) James[4] Short (1713–1795).

(4) Moses[5] Short (1760–1841), mar. (1) 1781, (2) 1826.

(5) Abigail[6] Stiles Short (1830–1903), unmarried.

(5) Moses[6] Short (1782–?), half-brother of Abigail. He removed from Newbury to Boston.

(6) John[7] E. Short (1816–?).

(7) Henry[8] Clay Short (1843–?).

A Cupboard lacking pedigree, inferentially attributed to Abraham and Hannah Perkins of Ipswich, Mass.

(DATED 1683.) COURTESY OF MRS. B. A. BEHREND, WELLESLEY HILLS, MASS.

(8) Henry[9] C. Short (to whom the chest was given in 1903, after the death of Abigail[6].)

Concerning the original owners: Henry Short Jr., in 1675, was appointed "to teach to write & read & cypher & teach a gramer schoole," in Newbury. The Town Records note his death, October 23, 1706, as follows: "Henry Short, Clark for ye Town & Keeper of Records & Register twenty years & two months." As a citizen of importance, it may be assumed that he was broadly acquainted throughout his district, and in Ipswich, nine miles distant, where his chest (*small-panel type*) was made. His wife, Anne, was a sister of Samuel Sewall, the noted diarist, jurist, and one of the judges at the witch trials in Salem in 1692. In his *Diary*, Judge Sewall several times mentions his "brother" and "sister" Short. Within this little chest, conceivably, Henry Short may have filed the town records during the period, 1686–1706, when he was "Clark for ye Town."

III. A Cupboard Inscribed $_{A}{}^{P}{}_{H}$, 1683, [conjecturally] for Abraham and Hannah Perkins of Ipswich, Massachusetts (Fig. 3)

Unlike the other four examples of its class, this piece of furniture lacks a provable lineage from first to last family owners. From the collection of the late Francis Shaw, of Wayland, Massachusetts, it was sold at auction in New York City, in 1935. No record of its prior ownership or derivation is available. For the identification of the inscribed initials of its original owners, the only clue is the piece itself. It represents a *type* of furniture (*small-panel*) made at Ipswich, Massachusetts. There, or in a nearby town, its owners may be presumed to have lived. The Vital Records of Ipswich, and of all other towns of Essex County, reveal only one marriage that satisfies the requirements imposed by the initials and date upon the cupboard: Abraham Perkins (1641–1722) married at Ipswich, October 16, 1661, Hannah Beamsley (1643–1732). As marriages were not always recorded, this particular one does not furnish conclusive evidence for the identification of the cupboard's initials. However, it does make a good presumptive claim. The date on the cupboard, *twenty-two years* subsequent to this marriage, might be regarded as counter-evidence. But, how valid is such an objection? Another example of the same group of furniture, triple-initialed for a couple, bears a date *seven years* after the marriage. Probably, the whim of the maker determined his choice in marking.

Much corroborative evidence supports the conclusion that this cupboard was made in Ipswich, Massachusetts, and by Thomas Dennis. Briefly, the cupboard is of a distinctive type (*small-panel*), made at Ipswich; its carved design repeats a special pattern shown by another example of its class, pedigreed in Ipswich (Fig. 1 of the present paper); the mouldings just below the top and the central shelf—dentils alternating with half-rounds—also repeat from the chest of Fig. 1 and from other examples of its type; the spindles and columns are characteristic of type; the rare overhanging central shelf with pendants is peculiar to the type. If the design of this "cupboard" —*composed of drawers, without a cupboard*—is found to be unique, that further tends to confirm its Ipswich origin, by Thomas Dennis, a creative designer, who never deigned to make two pieces alike. Clearly, then, this piece was made at Ipswich, the residence of Abraham and Hannah Perkins, presumably the original owners.

Who were Abraham and Hannah Perkins? Abraham[3] (John[2], John[1]), a native of Ipswich, died there April 27, 1722, aged eighty-two years: "being run over by a Tumbrill, broke many bones a Cross his breast." His wife, Hannah, was a daughter of William Beamsley, distiller and innkeeper of Boston. The births of the children of Abraham and Hannah are recorded in Ipswich, 1662–1685. Abraham bore the military title of "cornet." He was an innkeeper and distiller, licensed to keep an "ordinary," to "still" and "sell by the quart" "strong waters." In 1688, he was paid by the town for "entertaining ye Justices." In 1689, soldiers were quartered in his inn. In March 1691, he was appointed a constable of Ipswich. Whether this appointment had any connection with an event of the preceding year, is unrevealed; for, on September 30, 1690, the Grand Jury presented Abraham Perkins of Ipswich "for striking of Thomas Dennis, constable, of Ipswich"! In 1698, he contracted with the town to build the new meeting-house, for £900. In 1710, he was a deputy from Ipswich to the General Court of the Bay Colony, as his grandfather, John, had been in 1636.

The inventory of his estate, in 1722, specifies certain items of furniture that are consistent with the cupboard of this discussion, as follows: "1 press £1"; "1 old cubbord 16[s]"; "1 chest with drawers 15[s]"; "ditto, 1 old one 5[s]"; "cubbord 12[s]."

Perchance, some reader, reminded by the picture of this very distinctive cupboard, may recall its actual derivation from an old family, and, thereby, be able to supply the missing link of evidence that is required in order to trace a valid line of descent from Abraham and Hannah Perkins.

Covered Bridges

By William Serey Powell

PROBABLY the most interesting and conspicuous of all engineering structures to the general public is the bridge. Especially interesting to us today is the covered bridge, which was so prevalent in the early days. Covered bridges are no longer built today, so that an attempt is being made to preserve the ones that are still standing as far as possible. The early bridges were constructed of wood and the covering was probably intended as a protection from the weather.

The covered bridge is quite characteristic of America, although it is not unknown in Europe, and it is especially characteristic of New England. Unlike steel or concrete bridges, covered bridges have an appeal that varies according to the particular interest of the observer. The student of local history is attracted strongly to them by reason of their age and the events that they may have witnessed during the passing years. The artist is often attracted by the quaint and picturesque settings in which they find themselves. To many of the bridges there clings an air of romance that excites the imagination. The engineer is interested in them because they are to him examples of the works of the early members of his profession and represent to him the gradual, and lately, the more rapid development in the field of structural engineering.

Vermont in particular possesses probably the largest number of any state. This may be due in part to the native conservatism or the unwillingness of the people to discard a sound structure that is still capable of performing its appointed task, for something more modern.

The splendid workmanship and the sturdy design of these old bridges which have made it possible for them to carry traffic far beyond anything their builders could have dreamed of, is another reason for the large number still existing in Vermont today. The small size of the rivers and streams of the state favored the construction of many bridges. Timber was plentiful and cheap and the short spans which were required could be built easily by clever local artisans.

Probably the day of the covered bridge is past and those still remaining may be doomed to go the way of the stage coach and the tallow candle, but happily a few of the larger ones are left. These include the fine double track bridge over the Lamoille River at Cambridge. A surprising number still survive on the less frequented back roads, where the real charm and beauty of rural Vermont can best be observed.

There are more than 200 covered bridges still in use in Vermont. These include six railroad bridges. Four or five still remain across the Connecticut River but these, according to the decision of the Supreme Court, are in New Hampshire. The court decided a few years ago that the west bank of the river is the New Hampshire-Vermont boundary.

Few, if any, of the covered structures are less than fifty years old and not a few are over a hundred. The Heineberg Bridge was built more than seventy years ago. Many date back to the early 1830's

The last of the old "Heineberg Bridge" across the Winooski River at Burlington, Vermont. Built 1862-3

and 1840's, and a small bridge over the Second Branch of the White River at East Bethel is said by local authorities to have been erected in the 1820's. It is very noticeably old, the timbers being hand hewn, but it appears to be sound and strong and carries the modern automobile traffic without visible signs of distress.

The genius of some one builder is clearly reflected in the marked similarity in design of the bridges that he built in some parts of the state. This is true, for example, of the bridges on the First and Second Branches of the White River at the towns of Tunbridge, Randolph, Royalton, and Bethel. Here we find about twelve spans (there used to be more), of an original type seldom found elsewhere in Vermont and unquestionably designed by one man or one of his later imitators.

In addition, certain peculiarities of architectural treatment are characteristic of certain localities. Many individual bridges have distinctive features of their own. An example of this is an old bridge in Poultney village which has a slate roof that weighs at least ten or twelve tons.

The most common type of covered bridge in Vermont is that known as the "Town Lattice Truss," invented by one Ithiel Town, an architect of New Haven, Connecticut, and patented by him in 1820. Town advertised his method of construction widely, and licensed many builders to use it, charging a royalty of $1.00 a foot if paid before beginning construction and otherwise $2.00 a foot. That he received a considerable income from the bridges built in Vermont is attested by the fact that at least eighty of these bridges, with an aggregate length of over a mile and a half, are still in existence in the state. The design was popular because the bridges could be built entirely of planks, held together

by wooden pins, and required no heavy timbers. They could easily be reinforced, as many of them were, if they showed signs of weakness. The famous Tucker Toll Bridge across the Connecticut at Bellows Falls, built in 1840, was of this type. It was built on the site of the first bridge that ever spanned the Connecticut River, that one erected by Colonel Enoch Hale in 1785. After ninety years of faithful service, the Tucker Bridge was replaced in 1930 by a fine reinforced concrete arch.

Some fifteen covered bridges remain across Otter Creek, more than over any other stream in the state, and nearly all are of the Town lattice type. The large number remaining on this river is explained by the fact that its current is more sluggish than that of most Vermont streams, and in times of flood its waters spread out over the lowlands along its banks, and do not rise to such heights as to carry away many bridges. One covered bridge over the Otter, the well-known Dorr Bridge near Rutland, when it was carried away by the 1927 flood, spread destruction in its path as it floated down the swollen stream, wrecking three steel bridges before it was itself destroyed by passing over the falls at Center Rutland.

Many covered bridges were swept away by the flood of 1927, but they suffered no more severely than bridges of other types. One small bridge over the Tweed River in Stockbridge was carried several hundred yards downstream and left, unharmed, in a pasture. A force of men under a superintendent of the Vermont Marble Company jacked it up and moved it back into position, much as one one would move a barn, thus opening the only road into the upper White River valley. A longer bridge over the Lamoille near Wolcott, which was left by the receding waters on a meadow a quarter of a mile below its original site, was taken apart, set up again in the road near the river, and moved across into position on cribwork built on the ice later in the winter.

These old bridges were of skillful design, careful workmanship and excellent materials. They lasted for many, many years, that is, a number far beyond what engineers usually consider the useful life of a steel bridge today. They very rarely failed unless they were washed away or burned. In fact, it has been unheard of for a Vermont covered bridge to collapse under load, or to be wrecked by a motor car, although heavy loads have been known to break through the floor. While the old bridge builders knew little or nothing about the theory of bridge design, they did possess to a remarkable degree, sound common sense and pride in their own fine workmanship.

Fire is, after floods and the march of progress, the most deadly enemy of covered bridges, and four or five years ago a bridge of unusual historic interest was burned at Sheldon, Vermont. It was across this span over Black Creek that the St. Albans raiders retreated toward Canada in 1864, and although they set fire to the bridge, the citizens succeeded at that time in extinguishing the flames. Not long before the destruction of this span, the long covered railroad bridge over the Missisquoi River a few miles to the north was also burned.

Before 1700 there were two bridges across the Charles at Boston, one 1500 feet long with seventy-five piers, presumably pile trestles (sometimes called "trussles" in old writings). Great development was made in road and bridge

building in the United States after the close of the Revolution due to peace, the development of the country, and the expansion of settlements. The construction of wooden bridges was favored because there was an abundance of timber and also a necessity for economy. The first bridge over the Connecticut River was built at Bellows Falls by Colonel Enoch Hale in 1785 but it was not a covered one. It consisted of two spans over the gorge at the lower end of the falls. It was replaced in 1840 by a Town lattice truss covered bridge. Later this was replaced by a Tucker toll bridge, and that by present concrete arches in 1930. It was regarded then, and justly, as a remarkable feat of engineering.

Three of the most noted of our early American designers were Timothy Palmer (Newburyport, Massachusetts, 1751–1821), Louis Wernwag (Germany, 1770, died Harpers Ferry, Virginia, 1843) and Theodore Burr (born, Connecticut, 1771 [?] died, Pennsylvania, 1822). Palmer built bridges over the Merrimac and Piscataqua Rivers in 1792 and 1794. One of his greatest was the "Permanent Bridge" over the Schuylkill at Philadelphia consisting of three spans, 150, 195, and 150 feet, built from 1804 to 1806. A contemporary account informs us that the bridge was "the only *covered* wooden bridge in any country, except that at Wittingen in Switzerland." It is reasonable to believe, however, that there may have been some other covered ones in this country because the one at Wittingen was destroyed in 1799. The "Permanent Bridge" was burned in 1875. Another remarkable example of Palmer's skill (who was self taught in the art of bridge building) was the bridge over the Delaware River at Easton, Pennsylvania, which was completed in 1807 at a cost of $61,000. Although it was still in good condition, it was torn down in 1895 because it was inadequate to handle the traffic. Palmer was insistent upon the necessity of protecting the bridges from the weather, and was probably the first important builder to be so inclined. It was his belief that covering would increase the life of a wooden bridge from about twelve years to approximately forty years.

Wernwag built more than thirty large bridges, mostly in Pennsylvania and the near-by states. His greatest was the "Colossus," built in 1812, over the Schuylkill at Philadelphia consisting of five parallel arched trusses, with a 340-foot span. This was burned in 1838. Several of his later ones were railroad bridges.

Burr's bridges were mainly of the combined truss and arch type, sometimes called the "Burr Truss." He built many long bridges, including one over the Hudson River at Waterford between 1804 and 1805. This was burned in 1909. It consisted of four spans. When it burned it had been carrying heavy interurban trolley cars for several years. Burr also built a bridge over the Delaware River at Trenton in 1806 and over the Mohawk at Schenectady in 1808. This one was an unsuccessful attempt at a wooden suspension bridge. He also built one over the Susquehanna at Harrisburg in 1816. This consisted of twelve wooden arch spans. He also patented the "Burr Truss" in 1817. Very many bridges of this type were built, both by Burr and other men. The old double track, three-truss bridge across the Lamoille River at Cambridge is of this type. This one is said to have been built in 1845.

The timber used in most of these bridges was of white pine, which is dur-

Bridge over Otter Creek near Proctor, Vermont, with overhanging ends

Bridge over the Ompompanoosuc at Pompanoosuc, Vermont, on U. S. 5

The Creamery Bridge, across Whetstone Brook, Brattleboro, Vermont

The "Pulp Mill Bridge", Middlebury, Vermont, over Otter Creek

able, though not very strong. The connections which were generally employed were hardwood pins, or treenails, often pronounced, and sometimes spelled, "trunnels." Burr trusses continued to be built long after his death which occurred in 1822.

The next important development in the construction of wooden bridges was the plank lattice truss. The patent for this type was granted in 1820 to Ithiel Town (1784–1844), who was an architect of New Haven, Connecticut. Bridges of this type were very popular. They were composed merely of planks and required no heavy timbers. They could be made continuous over several spans and could be doubled for increased strength. They did not require as much special skill in design or construction as the older types. Great numbers were built for both highways and railroads. Many of them are still in use. In Vermont alone there are approximately eighty. One railroad bridge across the James River at Richmond, Virginia, had nineteen spans, and was approximately 2900 feet long. Town was not a bridge builder himself but obtained a patent on his design and then charged a royalty of $1.00 a foot, if paid before construction began otherwise his fee amounted to $2.00 a foot, as previously stated.

In 1830, Lt.-Colonel H. S. Long patented an improved design of wooden truss which was not so very popular. Then ten years later William Howe of Massachusetts patented the Howe truss with inclined wood compression members, and vertical iron tension members. This became very popular and was found to be practical for railroad bridges. One of the first built was in 1840 and was constructed at Springfield, Massachusetts, over the Connecticut River. It consisted of seven spans each approximately 190 feet long. This was on the Western Railroad which is now the Boston & Albany Railroad. This bridge was later replaced by an iron structure in 1874. The patent was bought by a Mr. Stone in 1841 and he built a great many bridges of this type. The recently demolished "Heineberg Bridge" at Burlington which was built in 1862 and 1863 consisted of a Howe truss. The railroad bridge at Morrisville which was built in 1889 was of the same type. It was replaced a few years ago by a steel structure.

Howe trusses were occasionally, and Town lattice trusses quite often, strengthened by the addition of timber arches, usually of several layers of planks. These arches, especially with lattice bridges were sometimes added because of the alarm that was caused by a sagging of the trusses. There were very few true timber arch bridges built at this time and the only ones that are in use in Vermont today are very small structures. The Pratt truss that was patented by T. W. Pratt in 1844, had vertical compression and diagonal tension members, but it was not so well suited for construction in wood, although it later became very popular in iron and steel bridges.

The early designers of wooden bridges knew little or nothing of the theory of stresses and their work was based on judgment, experience, and skill. The first American authority on the theory of truss design seems to have been Squire Whipple (born Hardwick, Massachusetts, 1804; died Albany, New York, 1888). He published *Treatise on Bridge Building* in 1847 and patented a truss in same year. He was a designer of iron rather than wooden bridges, however.

Interior of Bridge at Woodstock, Vermont, over the Ottauquechee

In an attempt to preserve the natural beauty and picturesqueness of the covered bridge for future generations, several movements are underway. A number of bridges in the New England states have been restored and repaired and in numerous instances memorial plaques have been placed upon the bridges themselves to commemorate an outstanding historical event.

The Beacon on Sentry Hill, Boston, Massachusetts

By Leroy L. Thwing

IT is probable that one of the first parcels of land reserved for public use in Boston was a plot on the summit of the highest of its three hills, now known as Beacon Hill. Originally it may have been reserved for a fort, but none was ever built by the colonists although a sentry was posted there in the earliest days, and the hill was long known as Sentry Hill. The sentry alone was not long considered adequate protection against Indians or foreign invaders, as the Council in 1635 ordered that "there shalbe a beacan sett on the centry hill to give notice to the country of any danger . . . One person shalbe kept there from the first of April to the last of Sept'r & upon discovery of any danger the beacon shalbe fired." There is no record that the plot on which the beacon stood was reserved for public use at that or any other time. It was doubtless reserved from the beginning but the first recognition of this is in a deed of 1670 cited in one of the "Gleaner" articles, to wit: "on top of which (Beacon) hill lyeth a parcel of land belonging to the town of Boston, i.e. 6 rods square." The hill itself was originally called Sentry Hill, but as the beacon was more conspicuous than the sentry, it came to be known as Beacon Hill, but the earlier name was long used in deeds and conveyances, along with the phrase "Beacon Hill, so called." Shurtleff in his *Description of Boston* locates the site of the beacon on Temple Street, but as the spot has since been covered by the State House Annex, Allen Chamberlain's *Beacon Hill* location is more practical. He states: "The site of the beacon . . . is probably at the top of the northerly flight of stone steps leading to the east portico of the State House extension. If this point could be determined instrumentally, it would be historically interesting to mark the site. Surely a landmark . . . around which so many interesting incidents in the town's history centered through nearly two centuries, is worthy of such further recognition."

The original beacon and its several successors stood on the hill practically continuously from 1635 until 1789. They were maintained primarily for signalling by fire, but there is no definite evidence that a fire was ever lighted. Shurtleff refers to the beacon as "the Beacon-Pole upon which the warning light had so often blazed," but he fails to cite a single instance of this. There was one occasion when the pole was used for signalling purposes, and another when it might have been lighted had not one of the Provincial governors taken steps to prevent it; but it was not, so far as we definitely know, ever lighted. When the last beacon blew down in 1789, John Hancock at once started a public subscription to erect another. The beacon had so long been a prominent and familiar outline against the sky that the hill doubtless looked bare and strange without it. But a brick monument, designed by Bulfinch, commemorating the victories of the Revolution, was erected in its place. No single relic of even the last beacon remains, but the tablets from the monument are built into the pedestal of the monument now standing in the little park on the State House grounds at the head of Ashburton Place.

The use of signal fires is at least as old

as the pillar of fire that guided the Israelites through the wilderness. The word beacon itself is of ancient Anglo-Saxon origin. These early beacons were nothing more than fires on hill-tops and as Beacon Hill was originally about 150 feet high, it is not quite clear why a mast was considered necessary. Possibly none was erected in 1635, but the fact that the beacon was to be "sett" on the hill implies that something more elaborate than a simple signal fire was intended. It was mentioned that the sentry was posted by the beacon only in summer. Did Indians and foreign foes attack only in warm weather? Or did the Council believe that no one could keep from freezing in winter on such an exposed spot? Traditionally, the further back we go in local history, the colder it gets, and it is a matter of record that Judge Sewall's ink froze in front of a burning fire. However, a beacon pole was probably erected, equipped at or near the top with an arm from which was suspended some device capable of holding a supply of pitch knots or a tar barrel. We know nothing by way of direct testimony of the appearance of the first beacon, and but little of any one of them. The first hints of this we have are details of Bonner's map of 1722, and of the Price-Burgis *View of Boston*, the first edition of which was published the following year. Bonner's map shows a mast supported by wooden braces, with footsticks to enable the sentry to climb to the top. The Burgis view shows a similar mast but with the added detail of a projecting arm at the top. Neither show any device for holding combustibles, but this is too small a detail to expect. There is later evidence that the mast was in fact braced as shown in both the map and the view. We may accordingly conclude that the general appearance of the beacon at various times was about as shown by Bonner and Burgis. It is also shown in Christian Remick's sketch of 1768 and in Des Barres etching of 1773, published in the *Atlantic Neptune* in 1779. All of these show braces supporting the mast. They may differ in other details but they all agree on this. Today braces are rarely, if ever, used for such masts or flagpoles. Just why they were used in 1722 and later is not clear, as there was no lack of sturdy pines that would have stiffly supported any and all devices. An obvious explanation would be that the top of the hill was a ledge or boulder, so that the mast could not be sunk in the ground. This, however, seems unlikely, although Bowditch in one of his "Gleaner" articles (XLIX) quotes a gentleman who came to Boston in 1787, to the effect that the mast rested on a stone foundation, but it was not stated whether this was natural or artificial. If artificial, as shown by the piers in Bonner's map, why was such support necessary? As for the materials for signal fires and their containers, none of these maps or views show a firebasket, cresset, kettle or skillet. Christian Remick's sketch of 1768 shows a variety of these devices, including a weathervane. These devices doubtless varied from time to time. Footsticks nailed to the mast have been mentioned, but trenails (wooden pins) driven through cross-bored holes were also used. Hutchinson is the first historian to describe any other equipment. He says: "In the early days of New England, a beacon with a large iron skillet or frame capable of containing a barrel had been fixed on the highest ground in Boston to alarm the country when ships of an enemy should appear."[1] He must have seen this beacon

[1] Hist. of Col. & Prov. Mass.

many times. The first device to hold the barrel was doubtless the above-mentioned "frame," otherwise known as a cresset or firebasket. This could have been made by a blacksmith, but after Joseph Jenkes established his bog iron foundry at Lynn, cast iron kettles and skillets would have been available. The Town Report for 1709 mentions the beacon but adds little to our knowledge. It records that "Capt Eph Savage, Mr. Isaiah Tay and Mr. Jonas Clark are desired to provide conveniencyes for the ready placing and firing a Tarr barrell of ye Beacon." T(homas) P(emberton) in describing the beacon in 1794, says that a tar barrel was "fixt on the top," but does not state what device, if any, was used to hold it.[2]

The height of the mast itself has been stated to have been sixty feet, but there is no record to that effect, and the circumstantial evidence is against it. The brick monument, previously mentioned, was sixty feet high. A sixty-foot mast could hardly have been supported by any such braces as those shown by the previously mentioned artists, and the "Gleaner" description states that the mast rested on two crossed timbers to which the braces were attached. There is no evidence that it was set into the ground. The beacon having blown down in 1741, we find the following entry in the Selectmen's Minutes for that year. "Agreed with william Bowen . . . to erect a beacon . . . the pole to be —— inches thick and —— feet in length, the cells [sills] to be —— inches of White Oak. And the [braces] to be of white oak. The Workmen to be paid by the Day's Work." It is later noted that the work and materials cost £12. The above dashes (——) are in the original record, suggesting that at the time it was written these sizes and dimensions had not been agreed upon. When they were, they were not entered in the record and our closest chance of learning the height of the beacon was lost.

How many times the beacon rotted or blew down is not recorded. After being renewed in 1741, it apparently stood until after 1760, and another was not erected until 1767. Judging from later events the Governor and Council did not want a beacon. However, in 1767 the Selectmen requested "Mr. Hancock . . . to direct in Erecting a Beacon on Beacon Hill, so called, in place of the one blown down by the wind, [as it] proves too rotten to serve again." There seems to have been continued opposition, as another order was passed the following April, and the beacon was erected.

As previously mentioned, there is much doubt if the beacon was ever fired. Certainly there is no recorded mention of it, but it is known to have been used at least once for signalling purposes at the time of the Andros Rebellion in 1689, which resulted in the setting up of a provisional government under former Governor Bradstreet. This revolt was in April. By inference some sort of signal was sent from the beacon to alarm the surrounding towns, and it is noted by Hutchinson that another signal was sent after the fighting was over. The source of his information is a letter[3] written by Samuel Prince which gives the most "circumstantial account" of this revolt against Governor Andros. Prince says: "Soon after [the fighting was over] the jack was set up at the fort and a pair of colours at beacon hill, which gave notice to some thousand soldiers on the Cambridge side, that

2 Mass. Hist. Coll.

3 *Hinckley Papers.* Mass. Hist. Soc. Coll. ser. 4: 5: 194.

the controversy was now ended." According to Palfrey, these signals were flown at two o'clock in the afternoon. If the first, the alarm signal, was sent some time before daybreak, it must have been a fire signal, but if at some time during the morning, another kind of signal might have been used. It might have been a smoke signal, and where there is smoke there is fire. Altogether it seems probable that the beacon was fired on this occasion, but we cannot be too sure of it.

The occasion when the beacon just escaped being lit was nearly one hundred years later. Samuel G. Drake in commenting on the erection of the 1768 beacon says that it was "erected anew in a great hurry by the selectmen, without consulting the governor."[4] Following on the various riots and popular uprisings of the sixties, British troops were to be sent to Boston and an officer from Halifax had arrived to make arrangements for quartering them. Directly after his arrival a tar barrel appeared in the skillet on the beacon. This barrel is variously described. Hutchinson says that it was an empty turpentine barrel that was later filled with that inflammable liquid. The barrel being in place, there seems to have been an understanding that it would be fired, presumably by the Sons of Liberty, as soon as the ship bringing the troops was sighted in the harbor. The possibility of further violence was not overlooked by Governor Bernard. The Council was hurriedly assembled, and it was resolved that "the selectmen should be desired to remove" this tar or turpentine barrel. As might be expected, that body took no definite action or any action of record. It was, however, noted—dryly—in their minutes for 1768, "Information is given that a Tar barrel has been placed in the Skillet of the Beacon by an unknown person."[5] No action being taken by the town, Governor Bernard and the royalists feared that the country might be aroused by the firing of the beacon, with subsequent armed opposition to the landing of the troops. He accordingly instructed Sheriff Greenleaf quietly to remove it, which he did in broad daylight, but at dinner time, to the great chagrin of the Sons of Liberty. The mast, with its presumably empty skillet, stood on the hill until 1775, when it was taken down by the British troops, and a square fort erected in its place. But once the town was evacuated, another mast was erected, which stood until 1789, when it blew down. The *Independent Chronicle* for December 3, 1789, notes: "The Beacon which was erected on Beacon Hill during the late war, to alarm the country in case of invasion by the British . . . was on Thursday night last (Nov. 26th) blown down." As previously noted, John Hancock immediately started a movement for the erection of another, but the so-called brick monument was erected instead.

In 1810 the Selectmen were worried about a town debt of about $152,000 which had been accumulating for a number of years due to both uncollected and uncollectable taxes in the sum of $109,000. In those days it was held that a public debt was a temporary thing that should be paid off as soon as possible. It was evident that even if all back taxes could be collected, there would still be a deficit of about $43,000. To make up this amount, the Selectmen looked over their available assets and recommended that the town "dispose of so much of its property as will place them in a state of Independence." Included in the land owned

4 *Hist. & Antiq. of Boston.*
5 T. R. 20: 307-8.

by the town was a lot opposite the Mall on Tremont Street, land on the "Neck," and the plot on Beacon Hill. This property was bringing no revenue to the town, and it was advanced that if it were sold, not only could the receipts be applied to the town debt, but in the future it would be taxable. It was thought that the land on Beacon Hill would bring $12,000 "at the lowest estimation . . . as high a price as it will probably produce at any future day . . ."[6] As a result the town voted to sell the above lands. They were sold at auction on June 20, 1811. The plot on the hill was purchased for $9300 by John Hancock and Samuel Spear, heirs to other Beacon Hill land formerly owned by Governor Hancock, which was being developed for residential purposes. This involved cutting down the hill and the demolition of the brick monument, standing on the former site of the beacon. If today one wishes to picture to himself the original height of the hill, he can look up at the eagle on the present monument in the open space just east of the State House Annex. The skillet and tar barrel were probably thirty to forty feet higher.

The beacon of 1767–1768 has a further claim of interest and distinction. When the Selectmen provided for the erection of this beacon, it was stipulated that "points" should be affixed to the top. Had it not been for the opposition to its erection, we might never have known what these points were. Fortunately when the order for the erection came up again, the Selectmen mentioned wires, in the place of points. These points and wires —the points can be seen in Remick's sketch —could have been nothing else than a lightning rod, probably the first in Boston, certainly the first of which we have any record. The first in the world had been installed by its inventor, Benjamin Franklin, on his Philadelphia house, some years earlier. Governor Bernard doubtless hoped these points and wires would be of little avail, during the summer showers.

6 T. R. 35: 280-9.

THE BEACON.